



MODULE SPECIFICATION

Part 1: Information			
Module Title	Climate Change: Challenges for the 21st Century		
Module Code	UBGMRR-15-2	Level	Level 5
For implementation from	2019-20		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Geography and Environmental Management
Department	FET Dept of Geography & Environmental Mgmt		
Module type:	Project		
Pre-requisites	Environmental Challenges 2018-19		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Overview: This module examines the enhanced greenhouse effect and climate change for the 21st century. The syllabus begins by examining natural causes of climate change during Earth's recent history in order to contextualise projections for the 21st century. Next, students examine how computer models are used to project future climate and environmental change and to identify climate-related hazards. Finally, examples of climate-related hazards are used to evaluate the adaptation and mitigation challenges for human society for the 21st century.</p> <p>Features: Module Entry requirements: 90 credits at level one</p> <p>Educational Aims: See Learning Outcomes.</p> <p>In addition to the Learning Outcomes, the educational experience may explore, develop, and practise but not formally discretely assess the following:</p> <p>In-class discussions of emerging climate change science, and the policies for climate change mitigation and adaptation</p> <p>Outline Syllabus: Part one – climate change and Earth system science; natural patterns of climate change within the Quaternary geological period;</p>

STUDENT AND ACADEMIC SERVICES

natural causes of Quaternary climate change: processes and feedbacks in the Earth system;
anthropogenic greenhouse gas emissions and the enhanced greenhouse effect.

Part two – modelling 21st century climate and environmental change

computer-based approaches to modelling future climate and environmental change;
uncertainties in scenarios for future greenhouse gas emissions;
uncertainties in Earth system feedbacks; abrupt climate and environmental change.

Part three – using model projections to identify key climate-related challenges for the 21st century

modelled projections for climate-related hazards for the 21st century (indicative examples: heat waves, wildfires, hurricanes, vector-borne diseases);
adaptation strategies to reduce the vulnerability of at-risk communities;
mitigation strategies (global climate change policy to reduce greenhouse gas emissions and the enhanced greenhouse effect)

Teaching and Learning Methods: See assessment strategy

Part 3: Assessment

The module is assessed by an individual portfolio of work, weighted at 100%. The portfolio will consist of three pieces of writing, each 1,000 words and submitted at equal intervals during the module. The purpose of the portfolio is to:

assess the students' evolving knowledge and understanding at key progression points in the module syllabus: the role of earth system feedbacks in natural climate change; uncertainty in future projections of anthropogenic climate change; critical evaluations of local adaptations versus climate change mitigation to reduce vulnerability in the 21st century.

enable students to reflect on their development as learners in an area of complex, uncertain and rapidly developing academic knowledge;

facilitate a "feed-forward" approach, where students use timely formative and summative feedback to improve their performance in subsequent assignments.

Component A

Element 1 - Individual portfolio of work. Learning outcomes 1-6.

three pieces of written work, submitted at equal intervals during the module;

each piece of work will be 1,000 words maximum;

The portfolio will be assessed according to the following criteria:

the level of understanding of the science of climate change and / or climate-related hazards;

the level of engagement with key academic and / or policy literature;

the depth of reflection on the individual's development as a learner in an area of complex, uncertain and rapidly-developing academic knowledge;

clarity, coherence and literacy.

Formative work

Students will have opportunities for formative feedback on their portfolio work during class and via individual meetings to review draft work.

STUDENT AND ACADEMIC SERVICES

Resit information			
Students who fail the module at the first attempt will be required to re-submit an individual portfolio of work.			
First Sit Components	Final Assessment	Element weighting	Description
Portfolio - Component A	✓	100 %	Individual portfolio of work (3000 words)
Resit Components	Final Assessment	Element weighting	Description
Portfolio - Component A	✓	100 %	Individual portfolio of work (3000 words)

Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will achieve the following learning outcomes:	
	Module Learning Outcomes	Reference
	Contextualise post-industrial and projected 21st-century atmospheric greenhouse gas concentrations and climate change within geological timescales	MO1
	Explain how uncertainties in our understanding of Earth system processes and feedbacks are carried through into projections for 21st century climate change and climate-related hazards	MO2
	Critically evaluate models of 21st century climate change and climate change-related hazards	MO3
	Demonstrate a critical understanding of the key approaches to climate change related hazard adaptation and mitigation	MO4
	Demonstrate critical engagement with academic and policy literature	MO5
	Produce coherent written accounts that demonstrate an understanding of climate change science and their development as a learner in this field	MO6
Contact Hours	Independent Study Hours:	
	Independent study/self-guided study	114
	Total Independent Study Hours:	114
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	36
	Total Scheduled Learning and Teaching Hours:	36
	Hours to be allocated	150
	Allocated Hours	150

STUDENT AND ACADEMIC SERVICES

Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/index.html</p>
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Part 5: Contributes Towards

This module contributes towards the following programmes of study: